REMARKS

Claims 1-30 have been cancelled without prejudice. New claims 31-40 have been added and find support in the claims and drawings as originally filed. No new matter is added. The new independent claim is in many respects broader than the cancelled claims and intended to clarify the distinctions over the cited art. Previously pending claims 14, 24, 25 and 28-30 were rejected for alleged obviousness over one or more of Korf et al. (US Patent 5,167,929), Miyamoto et al. (US Patent 6,331,591), and Tice et al. (US Patent 6432665).

Korf et al. reported a vessel shaped like an Eppendorf® tube wherein the neck was tubular but the sample bearing/reaction end was relatively conical and short, with a relatively great surface area abutting the neck segment. .Korf teach the problem of evaporation and the solution of incorporating an elongate plunger/stopper that could intersect along a wall of the conical (sample holding) section, along with a lateral bore hole for equilibrating pressure. Miyamoto and Tice teach undesired properties of cyclo-olefin plastics (e.g., brittleness/lack of durability) and how to improve upon them.

(See Exhibit 1 with the Figures for Applicants: Korf et al.; Lee et al; Lee et al.; Hanley et al.; and Atwood et al.)

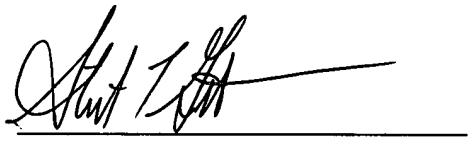
Earlier citations of record included Hanley et al.(US Patent 5604101; Fig. 6 above) and Atwood et al.(US Patent 5475610; Fig. 29 above), both of which teach vessels of Eppendorf®-like proportions similar to Korf et al. (second in line from left above), and Lee et al. (US Patent 6,312,886; Figs. 1, 8, 9,10 above), which teaches tubes of substantially uniform or non-segmented dimensions, including capillaries, but not of the hybrid shape and with all of the advantages described herein. In addition, Hanley et al. is directed to penetrable membrane caps, Lee et al is directed to conductive plastic vessels directly connected to an electrical supply, and Atwood et al. teaches tubes of dimensions fitting conventional Peltier thermocycling blocks or microtiter plate wells.

None of the cited prior art therefore teaches or suggests, as do the instant claims, a relatively narrow and elongate sample holding portion conjoined directly or indirectly to a wider neck portion. These combined features promote 1) ease of sample addition by conventional means

such as a disposable pipette tip and 2) a relatively narrow and long, low volume, sample bearing portion that lends nicely to air-driven cooling/heating systems. Moreover, elongating the lower sample-bearing portion and lessening its taper as Applicants have done is antithetical to the plunger design of Korf et al., antithetical to the electrical connection/conductance requirement of Lee et al. insofar as Lee et al. ostensibly prefers uniform-shaped vessels that simplify current distribution, and antithetical to the Eppendorf®-like shapes of Hanley et al. and Atwood et al. which shapes do not as efficiently lend to rapid heating and cooling to thereby expedite thermocycling reactions singularly or in parallel. Add to this the optical and durability features that cyclo-olefin construction imparts and the advantages are even more pronounced and unobvious.

Accordingly, Applicants respectfully submit that the claims are in condition for allowance over the above-cited art and any suggestion to the contrary can only be the result of impermissible hindsight.

Respectfully submitted,



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